

IN THE CLAIMS:

1. (Previously Presented) An optical sensor for sensing a measurand, comprising:

an optical waveguide having an outer cladding and at least one inner core disposed therein which propagates light;

a D-shaped portion of the optical waveguide having a generally D-shaped cross-section, wherein a property of the D-shaped portion changes in response to the measurand, the property being polarization or birefringence; and

a layer disposed on a flat surface of the D-shaped portion, wherein a refractive index of the layer changes in response to a change in the measurand.

2. (Canceled)

3. (Previously Presented) The optical sensor of claim 1, wherein the measurand includes at least one of the members of the group consisting of heat, humidity, light, electric field, magnetic field and chemicals.

4-5. (Canceled)

6. (Original) The optical sensor of claim 1, wherein a transverse outer dimension of the waveguide is greater than 0.3 millimeters.

7. (Canceled)

8. (Previously Presented) An optical sensor for sensing a measurand, comprising:

a first D-shaped waveguide having a generally D-shaped cross-section;

a second D-shaped waveguide having a generally D-shaped cross-section, wherein the first and second D-shaped waveguides are optically coupled together and wherein a property of at least one of the first and second D-shaped waveguides changes in response to the measurand, the property being polarization or birefringence; and

a layer disposed between the first and second D-shaped waveguides, the layer capable of changing thickness in response to the measurand, wherein the measurand includes at least one member of the group consisting of heat, humidity, light, electric field, magnetic field and chemicals.

9. (Original) The optical sensor of claim 8, wherein the first D-shaped waveguide has at least one first inner core disposed therein which propagates light in substantially a few spatial modes and the second D-shaped waveguide has at least one second inner core disposed therein which propagates light in substantially a few spatial modes.

10. (Canceled)

11. (Original) The optical sensor of claim 8, wherein the first and second D-shaped waveguides include a plurality of cores.

12-20. (Canceled)